REPLACEMENT CLAIMS

1. (Twice amended) A method of forming a copper damascene structure, said method comprising the steps of:

patterning a low-dielectric constant layer to form at least one opening through said low-dielectric constant layer;

forming a tungsten nitride layer by atomic-layer deposition using sequential surface reactions, said tungsten nitride layer being in contact with said at least one opening; and

providing a copper layer in said at least one opening and in contact with said tungsten nitride layer, wherein said copper layer is selectively deposited by low-temperature metal-organic chemical vapor deposition.

14. (Twice amended) A method of forming a copper damascene structure, said method comprising the steps of:

patterning a low-dielectric constant layer to form at least one opening through said low-dielectric constant layer;

forming a tungsten nitride layer by atomic-layer deposition using sequential surface reactions, said tungsten nitride layer being in contact with said at least one opening;

removing horizontal portions of said tungsten nitride layer formed above a surface of said low-dielectric constant layer by chemical mechanical polishing; and

subsequently providing a copper layer in said at least one opening, wherein said copper layer is formed by contact displacement copper deposition at room temperature.

17.   (Amended) A method of forming a copper damascene structure, said method comprising the steps of:

forming a material layer of methylsilsequiazane over a substrate;

forming at least one opening through said methylsilsequiazane layer;

forming a tungsten nitride layer by atomic-layer deposition using sequential surface reactions, said tungsten nitride layer being in contact with said at least one opening;

removing horizontal portions of said tungsten nitride layer formed above a surface of said methylsilsequiazane layer; and

subsequently providing a copper layer in said at least one opening.